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Aquarium Summer Interns From Across Country Find Opportunities, New Experiences

For two high school and three college students from Arizona, Florida, Missouri and Illinois, spending the summer as interns at the Woods Hole Science Aquarium opened their eyes to the many opportunities available in marine science, and to much more.

The five students are among up to 20 from around the country who participate in summer programs at the aquarium for individual students each year. The number varies, depending on available funding and staffing in a given year, but the interest in and enthusiasm for the experience has continued to grow since George Liles began the current program in 2002. That year, 10 students applied and 7 were accepted. In 2016, 102 applied and 9 were accepted.

"It's an educational experience for students and ranges from aquarium operations and animal husbandry to marine and environmental science and career opportunities," said Liles, noting that the Aquarium has had a summer internship program for decades. "It is a national program – students come from all over the country. It gives the aquarium a broad reach, and the students live and work with students from communities different from their own. There is a wide range of ethnic groups and interactions among the students, who come with different learning styles as well."

Some are hands-on learners, some don't plan to attend a four-year college but want to develop skills and practical knowledge to find a job, while others are book learners or into data and want to become research scientists and earn a Ph.D. "We strive to be inclusive and diverse to represent the demographics of our country." Liles said. "That makes the program fun and interesting and it benefits everyone."

Teddy Verra, a June 2016 graduate of Strawberry Crest High School in Dover, Florida, is attending classes this fall at Hillsborough Community College with plans to get an associate's degree in aquaculture. His six-week experience as a high school intern exposed him to some new career paths and reinforced his plans about the future.

"I have always been interested in doing something that revolved around the environment and the creatures that live in it," he said. "I like to fish and identify animals, to be outside and work with equipment, so the Aquarium internship sort of bridged all of that. The program

exposed me to some career paths that I could probably take with my education and experiences, and has opened up the possibility of returning to Woods Hole."

Marissa Mandalfino attends Desert Ridge High School in Mesa, Arizona and plans to graduate a year early. She was already interested in marine science before coming to Woods Hole, so her first internship was a good fit. She particularly enjoyed the animal husbandry activities and hands-on work, attending lectures and presentations, and being in close contact with scientists. She described the experience as "intellectual," and the village of Woods Hole as "cozy and small in a good way, and full of science."

Verra and Mandolfino were joined during the last two weeks of their internship by seven high school students from Ohio, California, New Jersey, Virginia and Massachusetts who participated in the Aquarium's Careers in Marine Science Seminar. In addition, three college interns spent ten weeks this summer at the Aquarium, an experience that is helping shape their future plans.

Jet Puentes from Auburndale, Florida, is a sophomore at the University of Chicago with plans to pursue a career in evolutionary biology. He had never been to Woods Hole before but knew about the village and the Marine Biological Laboratory (MBL) specifically due to its affiliation with the University of Chicago. Once here, he was surprised by the connection between all of the scientific institutions in the village and how closely members of the scientific community work with each other.

"Observing necropsies, learning animal husbandry practices, meeting with members of Woods Hole's scientific community, and performing collecting walks have been the most exciting and fulfilling for me," he said of the internship experience. "It has meant discovering where my scientific interests truly lie, in evolutionary biology and marine science."

Theresa-Anne Tatom-Naecker grew up in St. Louis, Missouri and is a senior at the University of Chicago, where she is pursuing a double major in biology and environmental science. After graduation she plans to take a year off to gain experience through internships before attending graduate school. She is interested in marine mammal conservation, especially involving whales, and fish population dynamics.

A first-time visitor to Woods Hole, she heard about the internship program from a college friend who had been an intern last summer and "had a wonderful experience."

Her favorite aspects of the program include food preparation, feeding the fish and the husbandry work, and the people. "My favorite thing, and also the experience that I wasn't expecting to have from this internship, has been all of the people we've gotten to meet during this program, especially the scientists from NOAA's Northeast Fisheries Science Center. I find it fascinating to learn about their work and see how they go to where they are today, and it has also really helped me clarify my interests and plans for the future."

Both Puentes and Tatom-Naecker received support from the University of Chicago's Metcalf Internship Program, which offers over 1,000 paid internships to UC undergraduates during the summer and academic year.

Jessica Perelman, a recent graduate of the University of Southern California with a degree in biological sciences, found funding for her internship experience through The Safina Center. She grew up in Glencoe, Illinois outside Chicago and knew about Woods Hole through her studies but had never been here. She found the internship opportunity online. After a gap year, she plans to attend veterinary school at the University of Florida, where she will focus on wildlife and conservation veterinary medicine.

Her favorite part of the program was going to lectures and presentations by various researchers in Woods Hole, and having the ability to make connections with some of them to talk about their careers.

"This experience has meant the world to me. It has introduced me to so many new opportunities, great people, and a thriving little village that revolves around one of my greatest passions - the ocean," Perelman said of the experience, which she blogged about on the Safina Center's web site and on National Geographic's Ocean Views web site. "Woods Hole has proven that marine research is such a global, collaborative, and interconnected field, and that scientific discoveries are not localized to one place."

Each of the five interns gave a public presentation on August 5 about a project they had worked on over the summer. Verra gave an overview of the collecting walks, Mandalfino spoke about the Aquarium's harbor seals, and Puentes focused on the adaptive traits of lion fish, ocean pout and gray triggerfish, all species on display. Tatom-Naecker did a project on what a fish's mouth reveals about its feeding habits, and Perelman spoke about the sea star wasting disease epidemic.

The summer high school internship program at the Woods Hole Science Aquarium has been offered since at least the early 1960s, when the current Aquarium building replaced an aging facility built in 1885 at the same location. The facility is operated by NOAA's Northeast Fisheries Science Center as part of its Woods Hole Laboratory, which was founded in the village in 1871.

In addition to summer programs for individual students, Liles and staff members Kristy Owen and MaryAnne Alliegro also offer career exploration programs during the school year for schools on Cape Cod and off, from Upper Cape Regional Technical High School in Bourne to Codman Academy in Dorchester, Mass. Students from Falmouth High School, the local public high school, also participate in programs each year.

These programs show the range of career possibilities in marine and environmental sciences, from marine mammals and endangered species to biomedicine, oceanography, environmental science, fisheries, resource management and conservation, policy, social sciences, and information technology. Another 5,000 students visit on school field trips, and there is an annual intern exchange with the New Bedford Whaling Museum.

More than 80,000 members of the general public visit the Woods Hole Science Aquarium during the year and participate in special programs ranging from Endangered Species Day to summer collecting walks at a nearby marsh and beach area. The touch tanks behind the scenes and the seal feedings are among the most popular exhibits. The Aquarium welcomed its one millionth visitor on August 6, 2015 since individual counting began after 9/11. Many millions have visited since the first Woods Hole fisheries aquarium opened to the public in 1874.

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Woods Hole Aquarium Summer Interns Speak to a Full House: http://www.capenews.net/falmouth/news/woods-hole-aquarium-summer-interns-speak-to-full-house/article 2bf88775-ec7c-5af3-ab94-5ad0e3c5dcab.html

Woods Hole Science Aquarium: http://aquarium.nefsc.noaa.gov/